



**Postdoctoral Researcher**  
**Center for Metal Casting Research**  
**School of Materials Engineering**  
**Purdue University, West Lafayette, IN USA**

The Center for Metal Casting Research at Purdue University has an immediate opening for a postdoctoral researcher in the area of *numerical modeling of metal casting processes*. The successful candidate should have a strong background in coupled transport phenomena and in the numerical analysis of solidification (or related processes). Specific initial tasks will be evaluating commercial software platforms for both Direct Chill ingot casting and die casting of aluminum alloys. Under the direction of Profs. Matthew Krane and Kevin Trumble, the postdoc will use commercial software to simulate DC casting and die casting, working with sponsors to develop models of industrial processes. The postdoc will work on experimental validation of the models with current graduate students in the casting center. The development of related independent and/or collaborative research activities will be encouraged. A demonstrated ability to use software to model specific problems in metals processing is required and strong communication skills are desired. The position will be for 12 months with possible renewal, contingent on performance and funding.

Faculty and students in the Purdue Center for Metal Casting Research conduct broad-based, fundamental research programs guided strongly by industry needs in investment casting, ingot casting (DC, VAR, ESR), die casting and related processes. An emphasis is on coupling of experimental and numerical approaches focused on microstructure development in casting of Al, Mg, Ni, Ti, Steels, and other specialty alloys. There are currently 4 faculty, 12 graduate students and a number of undergraduates conducting casting research. The School of Materials Engineering currently has 22 faculty members, over 90 graduate students and 130 undergraduates. The School has well established laboratory facilities for processing and characterization, as well as access to world-class computational facilities. More information on our existing facilities can be found at [www.purdue.edu/mse](http://www.purdue.edu/mse) and [www.purduecasting.org](http://www.purduecasting.org).

Interested candidates should provide electronically a cover letter stating their suitability for the position and date of availability, a list of three references and a CV to Prof. Matthew Krane, at [krane@purdue.edu](mailto:krane@purdue.edu). Applications will be reviewed beginning immediately and the position will remain open until filled, which is expected to be by April 30, 2014. Purdue University is an equal opportunity/equal access/affirmative action employer.